CLAIMS

We claim:

1. A supply air terminal device (10) comprising side plates (12) and an air guiding part (13), whereby a heat exchanger (14) is fitted in the device below the supply air chamber (11) for supply air in between air guiding parts (13) located on both sides of the central axis (Y_1) of the device, whereby in the device the supply air chamber (11) includes nozzle apertures ($12a_1$, $12a_2$ ..., $12b_1$, $12b_2$ ...) to guide fresh supply air into a side chamber (B_1) and to induce a flow of circulated air (L_2) from the room space through the heat exchanger (14) into the side chamber (B_1), whereby the heat exchanger (14) can be used to either cool or heat the circulated air, wherein the device further includes a control device (15) for the induction ratio between the supply air flow (L_1) and the circulated air flow (L_2), which control device can be used to control in which ratio there is fresh air (L_1) and circulated air (L_2) in the combined air flow ($L_1 + L_2$).

which one ?

2. A supply air terminal device according to claim 1, wherein the induction ratio control device (15) is fitted in between air guiding parts (13) limiting the side chamber (B_1) of the device.

3. A supply air terminal device according to claim 2, wherein the induction ratio control device (15) is fitted on the inlet flow side of the heat exchanger (14), that is, before the heat exchanger (14), in relation to the flow direction of the circulated air flow (L_2).

4. A supply air terminal device according to claim 2, wherein the induction ratio control device (15) is fitted after the heat exchanger (14) as seen in the flow direction of the circulated air flow (L_2).

5. A supply air terminal device according to claim 3, wherein the control device (15) includes an aperture plate ($16a_1$) in a fixed position and another movable aperture plate ($16a_2$), whereby by moving the movable aperture plate ($16a_2$) the position of the apertures (a_1, a_2 ...) in the movable aperture plate can be controlled in relation to the apertures (b_1, b_2 ...) in the aperture plate ($16a_1$) in a fixed position and the total cross-sectional flow area through the aperture plates ($16a_1$, $16a_2$) can also be controlled and thus the flow volume of the circulated air flow (L_2) can also be controlled.

6. A supply air terminal device according to claim 1, wherein the side chamber (B_1) includes a control device (15), which is formed by a turning damper (17) located in the side chamber (B_1), which damper is used to open or close a flow path in the side chamber (B_1) for the combined air flow ($L_1 + L_2$).

ZA

7. A supply air terminal device according to claim 1, wherein the control device (15) is fitted in between the side chamber (B_1) and the heat exchanger (14) to close and open a flow path (E_1) for the circulated air flow (L_2) into the side chamber (B_1), whereby the induction distance of the supply air flow (L_1) in the side chamber (B_1) is controlled.

8. A supply air terminal device according to claim 7, wherein the control device (15) is a plate (20), which is moved in a linear direction either manually or with the aid of a motor and which plate (20) is moved between an air guiding part (13) and the supply air chamber (11) to close and open the flow path (E_1) between these for the circulated air flow (L_2), whereby the induction distance is controlled and thus the induction ratio between the flows ($L_1 + L_2$) is controlled.

9. A supply air terminal device according to claim 8, wherein there is a shaft (21), which includes toothed gears ($22a_1$, $22a_2$), whereby by rotating the shaft (21) the toothed gears ($22a_1$, $22a_2$) are rotated, which connect with the plate (20) moving it.

3C

10. A supply air terminal device according to claim 8, wherein the plate (20) can be locked manually with screws (R_1) in the desired control position.

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11. A supply air terminal device according to claim 8, wherein the plate (20) forms a damper, which can be turned around its joint (N_1), and that the damper (20) is articulated to the supply air chamber (11) to turn around its joint (N_1).

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12. A supply air terminal device according to claim 1, wherein the supply air terminal device in connection with the nozzles ($12a_1$, $12a_2$ ..., $12b_1$, $12b_2$ ...) of two nozzle rows in the supply air chamber (11) includes a control plate (24) of the induction ratio control device (15) for increasing or reducing the pressure loss of the supply air flow (L_1), that is, for increasing or reducing throttling of the flow (L_1).

13. A supply air terminal device according to claim 12, wherein the control device (15) is formed by a control plate (24), which includes flow apertures (f_1, f_2 ..., t_1, t_2 ...), which close and open a flow path to the nozzles ($12a_1$, $12a_2$ ..., $12b_1$, $12b_2$ ...), which nozzles ($12a_1$, $12a_2$ ..., $12b_1$, $12b_2$ ...) are located in two separate rows and have cross-sectional flow areas different from each other, whereby the control device (15) can be used to control the flow either through the nozzles ($12a_1$, $12a_2$ ...) having the bigger cross-sectional flow area or through the nozzles ($12b_1$, $12b_2$ ...) having the smaller cross-sectional flow area, and thus to control the induction distance of the flow of primary air flow (L_1) in the side chamber (B_1) and thus also to control the inducing effect of the said primary air flow (L_1) on the flow of secondary air (L_2) made to flow through the heat exchanger (14).

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14. A supply air terminal device according to claim 12, wherein the supply air terminal device inside the supply air chamber (11) includes an internal control tube (27) having a circular cross section and therein flow apertures (f_1, f_2 …, t_1, t_2 …) on both sides of the vertical central axis (Y), whereby by rotating the control tube (27) its position can be controlled in relation to the nozzles ($12a_1$, $12a_2$ …, $12b_1$, $12b_2$ …) located in two separate rows in the supply air chamber (11), whereby the first nozzles ($12a_1$, $12a_2$ …) in the first row have different cross-sectional flow areas than the nozzles ($12b_1$, $12b_2$ …) in the second row, whereby the control tube (27) can be used to control the flow into the nozzles ($12a_1$, $12a_2$ …, $12b_1$, $12b_2$ …) of the separate nozzle rows, and thus the air flow rate of the primary air flow (L_1) into the side chamber (B_1) can be controlled and also the inducing effect of the primary air flow (L_1) on the circulated air flow (L_2) can also be controlled, which circulated air flow arrives through the heat exchanger (14) to combine with the primary air flow (L_1).

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